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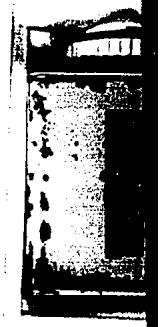

TYPES AND CLASSIFICATION OF REICHSBAHN CARS

Der Modelleisenbahner, Vol I
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I. PASSENGER CARS

All rolling stock of the Reichsbahn has number designations. This applies to passenger cars and freight cars, as well as to rail motorcars and locomotives. Numbers indicating the type have always been used for passenger cars, but types of freight cars were originally designated by the names of cities, so-called type-districts. Recently, however, series numbers have also been given to freight cars.

Types

Passenger cars include the following types:

1. Express-train cars
2. Cars for local passenger trains, including cars for fast passenger trains (Eilzuege)
   a. Four axles
   b. Three axles
   c. Two axles
3. Dining cars
4. Sleeping cars
5. Special cars [e.g., prison cars] and specially equipped cars [for dignitaries and cars for deluxe trains]
6. Baggage cars used in passenger trains

Express-train cars and cars for fast passenger trains are cars for speeds over 90 kilometers per hour. The two types differ mainly in the arrangement of compartments, the platform passageways (gangway from car to car), and the number of doors.

In most cases, cars for express trains have a side corridor and closed compartments, platform passageways with diaphragms, and one door on each side at the ends of the cars.

Cars for fast passenger trains, by contrast, have a continuous center corridor, a single compartment in the center of the car, open platform passageways (only isolated cars of this type have diaphragms), and two doors on each side of each end of the car. Second-class cars for fast passenger trains are an exception; they have only one door at each end of each side. The platform is separated from the interior of the car by a sliding door.

The older cars for local passenger trains are usually compartment cars with three or four axles. Each compartment has its own door to the outside at each side of the compartment.

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The newer cars for local passenger trains have two axles, except for cars for fast passenger trains, which are generally classed among the newer cars for local passenger trains. Most of the older types (including express-train cars) are of clerestory-type construction, but the newer types have arched roofs. Entrances are at either end of the car via open platforms. The interior of the car, with a center aisle, is divided into two sections by a partition with a door. The toilets are located next to this middle partition. In second-class cars, the platforms are enclosed (as in cars for fast passenger trains) All these cars have open platform passage-ways between cars.

Dining cars are four-axle express-train cars, each equipped with a kitchen and a dining room. They are owned by the "MITROPA" (Central European Dining and Sleeping Car Company). They are painted wine red with the name "MITROPA" on the sides.

Sleeping cars may have four or six axles. Each of the compartments, with two berths each, has a windowless door to the continuous corridor along the side of the car. The color scheme and lettering are similar to those of the dining cars.

For government officials and delegations, or for special trains (e.g., the [West German] Rheingold-Express), the Reichsbahn provides express-train cars with special interior equipment. These cars come under the categories of special cars or specially equipped cars.

Almost every passenger train includes a baggage car. Those for express trains have four axles. The cupola for the chief train conductor has been streamlined in the newer baggage cars. The train conductor and the baggagemaster have their stations at one end or in the center of this car. Baggage cars for local passenger trains have either two or three axles. Some of the baggage cars are constructed as combined baggage and mail cars.

Mail cars are the property of the Postal Service. These two-, three-, and four-axle cars are equipped as post offices. Within these cars postal employees sort and stamp mail during the run, unload it at destinations, and receive new loads. Like the older express-train cars, the older mail cars also have clerestory roofs. The newest mail cars, on the other hand, have roof windows which curve with the roof. Prison cars, used to transport persons in police custody, have only small windows with opaque glass and iron gratings and only one entrance. They are two-axled and four-axled.

Classification

Each type of car has its own special designation expressed in letters and/or numbers and painted on each car. The following designations can be seen to the upper left on each side of a railroad car:

1. Number of the car and abbreviation of the Reichsbahn Directorate to which the car is assigned, e.g., 33 501 Bln (Berlin)
2. Type symbol, e.g., BC 4 i
3. Weight of the car
4. Number of seats, subdivided by classes
5. Length of car including buffers
6. Type of brakes and braking force for various brake settings.

Additional symbols are to be found on the side sill. These are described below.

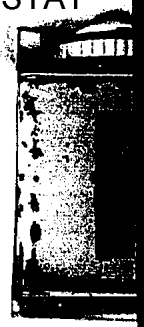
The type symbol is one of the most important designations on the car. It is composed of the main type symbol and the subsidiary type symbol. The meaning of the individual letters is indicated by the following table. The number in the type symbol indicates the number of axles of the car, and is used only when the car has more than two axles (3, 4, or 6).

Main Type Symbols

A	Car has first-class compartments
B	Car has second-class compartments
C	Car has third-class compartments
AB	Car has first- and second-class compartments
ABC	Car has first-, second-, and third-class compartments
Pw	Baggage car for passenger train
BCPw	Combined passenger and baggage car (second- and third-class compartments)
CPw	Combined passenger and baggage car (third-class compartments)
Post	Mail car
BCPost	Combined passenger and mail car (second- and third-class compartments)
CPost	Combined passenger and mail car (third-class compartments)
PwPost	Combined baggage and mail car
Sdr	Specially equipped car [for important passengers]
Dienst	Service car
WLAB	Sleeping car with first- and second-class compartments
WLABC	Sleeping car with first-, second-, and third-class compartments
WLC	Sleeping car with third-class compartments
WR	Dining car
Z	Prison car

Subsidiary Type Symbols

ü	Car has platform passages with diaphragms (C 4 ü)
p	Car which originally had open platform passages, but has now been equipped with passages with diaphragms for use in express trains (C 4 üp)



i	Car with open platform passages and platforms (C i)
tr	Car for passengers with heavy loads (Ctr)
d	Cars of the former fourth class (wooden benches)
v	Car equipped provisionally with benches
Kr	Car with compartment for the sick (C 3 Kr)
S	Special car (SB 6 ü)
K	Car with kitchen (Pw 4 i K)
e	Car equipped with electric heating (C 4 üe)
L	Car equipped with loud speakers for train radio (C 4 i Z) [sic]
o	Car with stove heating (C io)
sm	Car for narrow-gauge lines (C 4 ism)
Mci	Former freight cars remodeled as passenger cars during World War II

The type symbol and the number of a car has a definite relation to each other. The following series of numbers designate types as indicated:

8001 -- 9999	Cars for Bavarian and Wuerttemberg local railroad line
10001 -- 10199	Prison cars
10201 -- 10999	Express-train cars
214001 -- 215001	Express-train cars
20001 -- 29999	Second-class cars for local passenger trains
30001 -- 39999	Second- and third-class cars for local passenger trains
40001 -- 98999	Third-class cars for local passenger trains
99001 -- 99999	Combined passenger and baggage cars
100001 -- 104999	Combined baggage and mail cars
105001 -- 132999	Baggage cars
133001 -- 137999	Rail motorcars with internal combustion engines
140001 -- 149999	Rail motorcar trailers, including those equipped with controls
165001 -- 169999	All cars of the Berlin S-Bahn (intraurban Railroad)
183.01 -- 198.99	All direct-current rail motorcars (except S-Bahn)

Of great importance for the train personnel is the indication of the type of brake and the appropriate braking force. Brake types are indicated by the following abbreviations:

Wbr	Westinghouse brake
Kbr	Knorr brake
Kkgbr	Kunze-Knorr freight-train brake (not on cars for passenger trains)
Kkpbr	Kunze-Knorr brake for local passenger-trains
Kksbr	Kunze-Knorr express-train brake
Hikgbr	Hildebrand-Knorr brake for freight trains
Hikgl	Hildebrand-Knorr brake for freight trains with automatic brakes (mechanische Lastabbremsung)
Hikpbr	Hildebrand-Knorr brake for local passenger trains
Hikpt	Hildebrand-Knorr brake for passenger rail motorcars
Hiksbr Hikssbr	Hildebrand-Knorr brakes for express trains

On the side sill of the car is a lever to set the brakes for the appropriate tonnage indicated under the designation for the type of brake.

Some of the older cars still have brakes which, once they are activated, release all pressure at once. The symbols on such cars appear then as follows:

Wpbr

$\frac{E}{P}$ 19.7 tons

$\frac{E}{B}$ 14.4 tons

E Single release brake

P In local-passenger-train position

B In operating position

The brake is set in operating position when the car is running in a freight train (in this case the brake functions slowly).

Symbols on the Side Sill

Cars which may be used on foreign railroads carry the symbol RIC. If they may be used only for certain foreign railroads, the abbreviation of such railroads must be indicated after the RIC symbol. Also on the side sill is the name of the home station, information on wheel base, distance between center pins, type of heating, inspection dates, and similar information.

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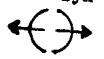
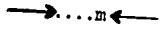
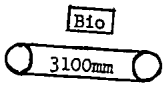
The symbols on the side sill have the following meanings:

Hhz	High-pressure steam heat
Nhz	Low-pressure steam heat
Nhhz	Combined high- and low-pressure steam heat
Nuhz	Circulation steam heat (low-pressure and sub-pressure steam heat)
Whz	Hot-water heat
Whzv	Warm-water (cooling water) heating and auxiliary heating from the exhaust of internal-combustion motor-cars
Phz	Pressed-coal heat
Ohz	Stove heat
el Bel	Electric lighting (followed usually by the voltage)
Einh Dyn Bel	Uniform dynamo lighting
	Flexible axles (Vereinslenkachsen) (for cars with more than a 4.5-meter wheel base)
	Wheel base of car, wheel base between axles of trucks, distance between center pins of trucks
	Lighting in operating order Length of the transmission belt between the axle of the car and the belt pulley of the generator (for producing electric current)
	Best place to jack up the car for major repairs

II. FREIGHT CARS

Freight cars are divided into three main groups:

1. Covered freight cars [boxcars, etc.]
2. Open freight cars
3. Tank cars

The covered cars transport freight requiring protection against humidity and theft, and explosive or highly inflammable freight, as well as animals, corpses, and, in special cases, also persons.

Open cars transport other freight. If such freight also requires protection from humidity or from sparks from the locomotive, it is covered with tarpaulin. Particularly heavy loads are carried on heavy-duty cars (depressed-center flatcars). Heavy-duty cars are not to be confused with heavy-duty trains. Heavy-duty trains [above-norm freight trains] are freight trains which transport weights at least 10 percent greater than the normal train load. Heavy-duty cars, on the other hand, are equipped to carry

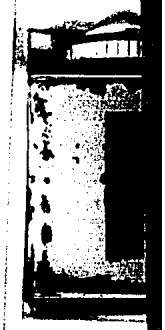
especially heavy shipments. For shipments of long timber, two flatcars are connected, either by the timbers which are being carried or by means of normal screw coupling.

Tank cars are used to transport liquid or gaseous products.

Formerly each type of freight car was designated by the name of a city, the so-called type-district. On the Reichsbahn, and recently also on the Bundesbahn, all freight cars are now being re-marked and the type-districts replaced by type numbers.

As in the case of locomotives and passenger cars, the type numbers and type symbols have a close relationship. The type symbol is made up of a group symbol and a subsidiary symbol. Subsidiary symbols, in the form of small letters, are added to the group symbols whenever the type of construction of the car in question varies from the characteristics specified by the group symbol (15 tons carrying capacity, etc.). The subsidiary symbols, as used in connection with the group symbols, are as follows:

Subsidiary Symbol	In Conjunction With Group Symbol	Meaning
a	SS	Open braking stand, platform railings can be folded down
b	G, R, and T	Ferry boat car
c	O	Wooden walls 130-190 centimeters in height
d	Z and ZZ	Heating coil or heating tank
e	All group symbols	Wired for electric heating
ee	G	Wired and equipped for electric heating
f	T	For ocean fish only
f	O and OO	Ends which swing open or fold down for transportation of vehicles
g	V	Four levels [for poultry]
g	T	For frozen products only
gg	T	For dry ice and frozen products only
h	All group symbols	Equipped with steam heat pipes
hh	G and GG	Has pipe and equipment for steam heat
i	Z and ZZ	Container car with inner lining
k	G	Refrigerator car, older type
k	O	Container (vat) car (2 or 3 removable containers)



Subsidiary Symbol	In Conjunction With Group Symbol	Meaning
k	OO	Car for large containers
k	S	Loading space less than 13 meters long
k	SS	Loading space less than 15 meters long
k	T and TT	Refrigerator car with refrigeration machine
kk	O	Car for small containers
l	G	Loading area at least 26 square meters
l	O	Loading space at least 10 meters long
ll	G	Two cars coupled short to form a Leig unit [For concept of Leig, see below]
m	G, K, O, R, and S	Carrying capacity 20 tons
mm	K, O, and R	More than 20 tons carrying capacity
n	T	Not suitable for frozen products
n	O and OO	Low side walls (40-80 centimeters)
o	R	Without side or end slats
o	T	No meat hooks
p	G	Tare weight 16 tons, three axles
p	O	Non-dumping
q	All group symbols	Without through-coupling equipment
q	All group symbols	Type number OO (zero zero), car for limited use only, loading weight reduced
r	G, V, O, and R	Adjustable to broad gauge
s	G, T, R, SSy, and Pwg	Suitable for trains up to 100 kilometers per hour
s	GG and TT	Suitable for trains up to 120 kilometers per hour
t	G and GG	Doors in end walls
t	KK	Hatch-covered hopper car

Subsidiary Symbol	In Conjunction With Group Symbol	Meaning
t	O	Self-unloading car, inclined floor, drop doors, some with hoppers
t	OO	Self-unloading car, inclined drop doors, side doors
t	XX	Drop doors, some with hoppers, collapsible side walls, removable end walls
t	S and SS	Depressed-center flatcar, length not indicated by subsidiary symbol
trieb	GG	Rail motorcar for freight
u	G and O	Not suitable for transport of persons or vehicles
v	G and GG	Cattle car, compartment for attendant
v	T	With electric ventilators
w	G, GG, V, O, and X	Carrying capacity less than 15 tons
w	OO	Carrying capacity less than 30 tons
w	SS	Carrying capacity less than 35 tons
y	SS	Heavy-duty car; carrying capacity 50 tons; length of loading space 8.8 meters, or 9.5 meters with platform railings collapsed; open brakeman's platform; adaptable for broad gauge
ym	SS	Heavy-duty car; carrying capacity more than 50 tons; length of loading space 11.2 meters, or 11.9 meters with platform railings collapsed; open brakeman's platform; adjustable to broad gauge
z	O and OO	Car for transportation of ore

A Leig unit is two G1 cars coupled short. Leig trains (Leichtgueterzuege, light freight trains) run on particular sections of the lines (for instance, Leipzig-Gera-Leipzig or Erfurt-Eisenach-Erfurt) and load and unload LCL freight at all freight stations along the way. The G1 cars, which are painted reddish-brown, usually carry a large white sign reading "rapid LCL freight service" (Stueckgut-Schnellverkehr).

The type numbers correspond to the type symbols. They are:

G 02 -- 01 -- 01 to 17 -- 99 -- 99

G11 20 -- 01 -- 01 " 20 -- 99 -- 99

T	18 -- 01 -- 01 to 19 -- 99 -- 99
K	21 -- 01 -- 01 " 22 -- 99 -- 99
V	23 -- 01 -- 01 " 23 -- 99 -- 99
O	26 -- 01 -- 01 " 47 -- 99 -- 99 and 49 -- 01 -- 01 " 49 -- 99 -- 99
Z	50 -- 01 -- 01 " 50 -- 99 -- 99
R	61 -- 01 -- 01 " 62 -- 99 -- 99 and 63 -- 01 -- 01 " 63 -- 99 -- 99
S	64 -- 01 -- 01 " 66 -- 99 -- 99
H	68 -- 01 -- 01 " 68 -- 99 -- 99
X	89 -- 01 -- 01 " 89 -- 99 -- 99

In addition to the groups listed above, the following cars are numbered as indicated below:

	From	To
Freight cars not belonging to the Reichsbahn	55 -- 10 -- 01	59 -- 99 -- 99
Railroad service cars	71 -- 10 -- 01	79 -- 99 -- 99
Service Freight cars	81 -- 10 -- 01	85 -- 99 -- 99
Freight-train baggage cars	88 -- 01 -- 01	88 -- 99 -- 99
Station or yard cars	90 -- 10 -- 01	90 -- 99 -- 99
Other freight cars	91 -- 01 -- 01	95 -- 99 -- 99
Cars suitable for limited use only	00 -- 01 -- 01	00 -- 99 -- 99

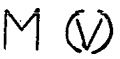
Freight-train baggage cars and railroad service cars are painted green or gray; refrigerator cars, white or gray; tank cars, steel-gray; and all other freight cars, reddish brown. The underframe of all cars is painted black.

The following symbols are also to be noted:

Private car

Private car (admitted to international traffic)

Rented car



Rented car of the people-owned sector of the economy

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Carrying capacity 11 tons

" " 12.5 tons

" " 18 tons

" " 24.5 tons

" " 27.5 tons

" " 30 tons

" " 35 tons

Symbol for cars which must not be humped

- E N D -